

WHAT IS CLAIMED IS:

1. A vessel capable of holding and dispersing liquid, comprising:
 - an outer body having a side comprising at least a portion of substantially transparent or translucent material, and a substantially closed bottom;
 - a hollow inner body having at least a portion of substantially opaque material, and having an interior, said inner body spaced from said outer body to define a volume therebetween;
 - static liquid treatment media disposed within said inner body;
 - a liquid passageway between said inner body interior and said volume allowing the flow of liquid from said inner body to said volume, but substantially precluding passage of static treatment media from said inner body to said volume;
 - a neck or open end at a first end of said bodies opposite said substantially closed bottom through which liquid may enter said inner body interior;
 - a closure for said neck or open end; and
 - said bodies and static treatment media positioned so that liquid is visible in said volume, but so that said media is not visible, from exteriorly of said outer body.
2. A vessel as recited in claim 1 wherein said inner body is substantially opaque where substantially aligned with said transparent or translucent portion of said outer body.
3. A vessel as recited in claim 2 wherein said volume has a substantially annular shape.
4. A vessel as recited in claim 3 wherein said inner and outer bodies are substantially circular in cross-section and wherein said inner body has an outer diameter about 2-10% less than an inner diameter of said outer body.

5. A vessel as recited in claim 1 wherein said static filtration media comprises a non-woven mat of a material capable of meeting 37 CFR 177.2260, having a weight of between about 4-7 oz/sq. yd., and a coating comprising about 100-200% of the weight of the mat, and including, by weight, about 60-85% activated carbon, about 10-20% binder, and about 0-25% zeolite.

6. A vessel as recited in claim 5 wherein said static filtration media has been compressed in one dimension about 25-75% so as to provide a substantially uniform pore size.

7. A vessel as recited in claim 6 wherein said compression is between about 40-60%.

8. A vessel as recited in claim 6 wherein said media has an RDV/BV ratio of between about 0.3-0.8 (as measured by the cessation of streaming flow) and a porosity of at least 90%.

9. A vessel as recited in claim 6 wherein said mat is of polyester non-woven material.

10. A vessel as recited in claim 6 wherein said mat substantially fills said inner body.

11. A vessel as recited in claim 10 wherein said mat is in roll or pleated form.

12. A vessel as recited in claim 6 wherein said mat comprises about 5-20% zeolite.

13. A vessel as recited in claim 1 wherein said liquid passageway includes a substantially central portion adjacent said outer body substantially closed bottom; and further comprising a substantially central vent tube extending from a second open end adjacent said vessel neck or open end to

a first open end adjacent said liquid passageway central portion, to provide appropriate venting action during discharge from said vessel.

14. A vessel as recited in claim 13 wherein said vent tube has a larger open cross-sectional area adjacent the second end thereof than the first end thereof.

15. A vessel as recited in claim 14 wherein said vent tube has a flare at a point approximately $\frac{1}{3}$ the length of said vent tube from said second open end to said second end.

16. A vessel as recited in claim 13 wherein said first end of said vent tube has a hood to minimize or prevent liquid flow into said vent tube.

17. A vessel as recited in claim 16 wherein said hood is connected to an outer supporting element by a plurality of substantially radial support arms, and said outer supporting element operatively connected to said vessel adjacent said neck or open end thereof.

18. A vessel as recited in claim 1 further comprising a secondary particulate filter between said static treatment media and said liquid passageway.

19. A vessel as recited in claim 1 wherein at least about 80% of said side of said outer body is of transparent material.

20. A static filtration media mat comprising:

a mat body comprising a non-woven of fibers that comply with 21 CFR 177.2260, and having a weight of about 4-7 oz./sq. ft.;

a coating on said mat comprising about 100%-200% of the weight of said mat, and including, by weight, about 60-85% activated carbon, about 10-20% binder, and about 0-25% zeolite; and

said media mat having an RDV/BV ratio of greater than about .4, and a porosity of greater than 90%.

21. Media as recited in claim 20 wherein said mat body comprises primarily or substantially exclusively polyester fibers, and has a nominal thickness of about 1/8-1 inch.

22. Media as recited in claim 20 wherein said mat has a unidirectional compression of between about 40-60%

23. Media as recited in claim 20 wherein said media mat has a void volume mean value of about 6-7 times 10^{-8} liters.

24. Media as recited in claim 20 comprising about 5-20% zeolite.

25. A vessel capable of holding and dispersing liquid, comprising:
an outer body having a side and a substantially closed bottom;
an inner body spaced from said outer body to define a volume therebetween;
static liquid treatment media disposed within said inner body;
a liquid passageway between said inner body and said volume allowing the flow of liquid from said inner body to said volume, but substantially precluding passage of static treatment media from said inner body to said volume;
a neck or open end at a first end of said bodies through which liquid may enter said inner body;
a closure for said neck or open end; wherein said liquid passageway includes a substantially central portion adjacent said outer body substantially closed bottom; and
a substantially central vent tube extending from a second open end adjacent said vessel neck or open end to a first open end adjacent said liquid passageway central portion, to provide appropriate venting action during discharge from said vessel.

26. A vessel as recited in claim 25 wherein said vent tube has a larger open cross-sectional area adjacent the second end thereof than the first end thereof.

27. A vessel as recited in claim 26 wherein said vent tube has a flare at a point approximately $\frac{1}{3}$ the length of said vent tube from said second open end to said second end.

28. A vessel as recited in claim 25 wherein said first end of said vent tube has a hood to minimize or prevent liquid flow into said vent tube.

29. A vessel as recited in claim 28 wherein said hood is connected to an outer supporting element by a plurality of substantially radial support arms, and said outer supporting element operatively connected to said vessel adjacent said neck or open end thereof.

30. A vessel as recited in claim 25 wherein said static filtration media comprises a non-woven mat of a material capable of meeting 21 CFR 177.2260, having a weight of between about 4-7 oz/sq. yd., and a coating comprising about 100-200%, by weight of about 60-85% activated carbon, about 10-20% binder, and about 0-20% zeolite.

31. A vessel as recited in claim 30 wherein said static filtration media has been compressed in one dimension about 25-75% so as to provide a substantially uniform pore size.

32. A vessel as recited in claim 31 wherein said media has an RDV/BV ratio of at least .4 and a porosity of at least 90%.

33. A vessel as recited in claim 25 further comprising a secondary particulate filter between said static treatment media and said liquid passageway.

34. A vessel as recited in claim 25 wherein said closure comprises a cap with a manual valve.

35. A vessel as recited in claim 25 wherein said closure comprises a substantially solid screw-on cap.

36. A method of producing a static filtration media comprising:

(a) producing a porous mat of fibers that comply with 21 CFR 177.2260;

(b) applying a coating on the mat including activated carbon and binder;

(c) compressing the mat in one dimension about 25-75% so as to provide a more uniform pore size, by supplying a compression force; and

(d) substantially maintaining the compression force until there is sufficient curing of the binder to minimize recovery of loft following release of the compression force.

37. A method as recited in claim 36 further comprising speeding the cure of the binder using heat or electromagnetic radiation.

38. A method as recited in claim 36 wherein (b) is practiced to applying a coating comprising about 100-200% of the weight of the mat and including, by weight, about 60-85% activated carbon and about 10-20% binder.

39. A method as recited in claim 38 wherein (a) is practiced to produce a non-woven mat.

40. A method as recited in claim 38 wherein (a) is practiced to produce a media having an RDV/BV ratio of at least about 0.4 and a porosity of greater than 90%.

41. A static filtration media comprising a composite structure of activated carbon, ceramic ion-exchangers of either the class of zeolites, or

amorphous gels comprised of sodium salts of aluminosilicates or titanium silicates, and a polyester substrate carrier in one of sponge or fiber form, compressed to form a treatment zone so that contaminate molecules suspended in water contained in the treatment zone are within about 0.5 mm of said carbon or zeolite.

42. A media as recited in claim 41 contained in a filter housing which holds between about 8 and 24 ounces of water, said treatment media removing at least about 70% of chlorine and at least about 90% of lead present in untreated water placed in said housing within about 0.1 to 5 minutes of filling of said filter housing.

43. A media as recited in claim 41 contained in a filter housing which holds between about 8 and 24 ounces of water, said treatment media removing at least about 70% of chlorine and at least about 90% of lead present in untreated water placed in said housing within about 0.5 to 2 minutes of filling of said filter housing.

44. A vessel as recited in claim 6 where the media is oriented in the bottle such that the plane of compression is parallel to the flow path of water.